



THE CENTER FOR CONSTRUCTION
RESEARCH AND TRAINING

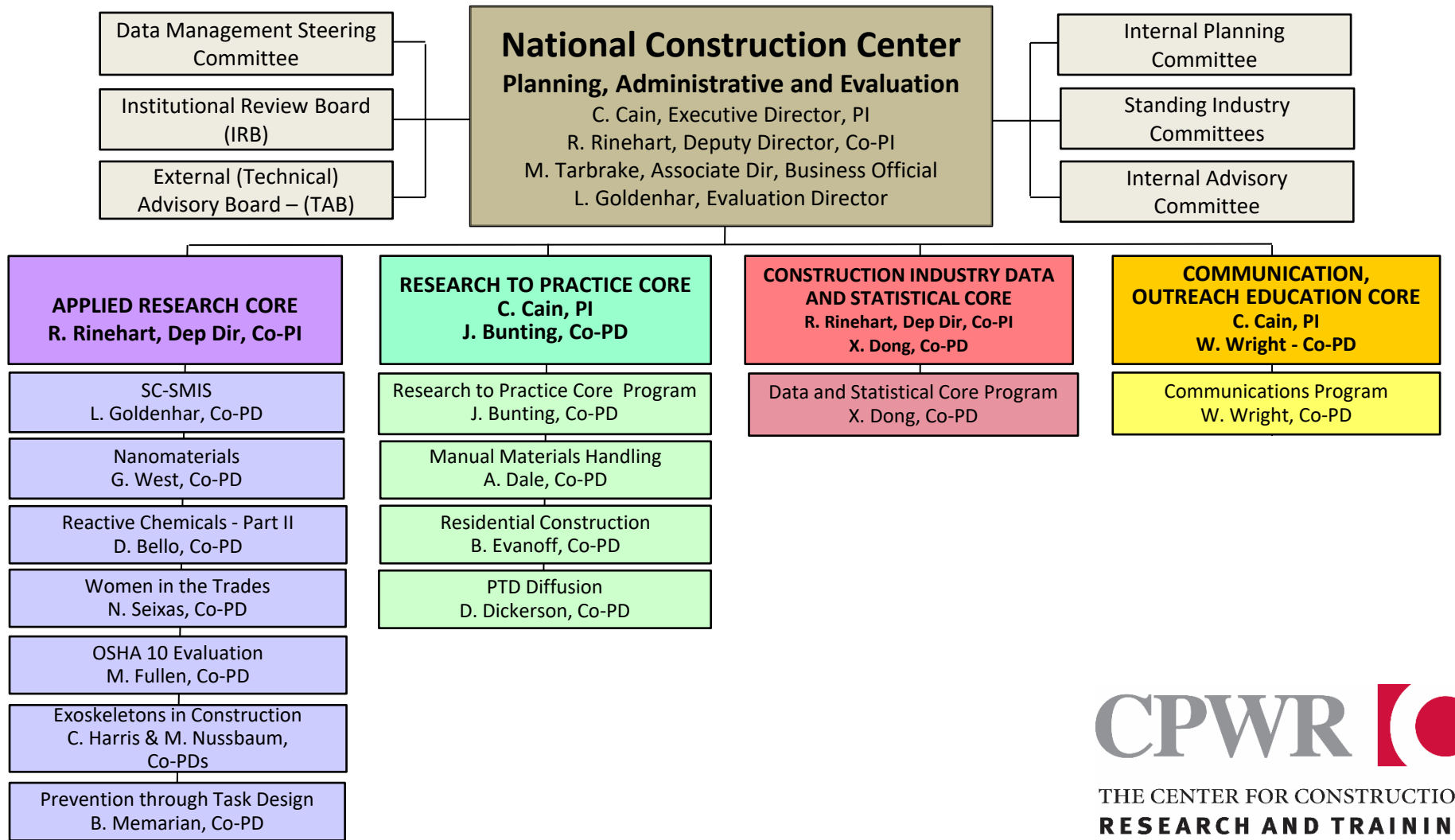
National Construction Center Update

NORA Construction Sector Council Meeting

November 16, 2021

Rick Rinehart, ScD

Deputy Director



Research to Practice (r2p) support for NORA Construction Sector Council

- Struck-by Workgroup <https://cpwr.com/struck-by-hazards>
- Falls Workgroup <https://stopconstructionfalls.com/>
- COVID-19 Workgroup <https://covid.elcosh.org/> <https://www.covidcpwr.org/>

NORA Struck-by Work Group



CPWR TOOLBOX TALK **Tower Crane Safety**

CPWR TOOLBOX TALK **Lift Zone Safety: Planning a Lift**

APRIL 26, 2022
STOP TALK ACT NATIONAL STAND-DOWN TO PREVENT STRUCK-BY INCIDENTS IN WORK AND LIFT ZONES

CDC **NIOSH** **CPWR** **OSHA**

Los incidentes de golpes son las principales causas de lesiones en la construcción

En 2019, más de 15,000 trabajadores resultaron heridos por ser golpeado por un objeto o equipo y 760 resultaron heridos por ser atropellados por un vehículo

LOS INCIDENTES DE GOLPE

21%

DE TODAS LAS LESIONES DE CONSTRUCCIÓN NO FATALES

...and electric power lines and maintain a safe working clearance from the weight of the load. DO NOT lift a load that exceeds the crane's capacity or loads. Never try to stop a moving load with your hands. ...a suspended load at any time.

CRANE AND LIFT ZONE SAFETY

PLANING FOR A SAFE LIFT

Hold a lift planning meeting before any work begins. Identify a lift director or person in charge of the lift, and include properly licensed or certified operators, riggers, signal persons, and any others involved with the lift.

LOS INCIDENTES DE GOLPE SON LA SEGUNDA CAUSA DE MUERTE EN LA CONSTRUCCIÓN

EN 2019

HUBO 170 (15%) MUERTES CAUSADA POR INCIDENTES DE GOLPE DE LAS 1,102 MUERTES EN LA CONSTRUCCIÓN

90 (53%) DE ESTAS FATALIDADES FUERON CAUSADAS POR SER GOLPEADO POR EQUIPO O UN OBJETO

80 (47%) MUERTES FUERON CAUSADAS POR SER GOLPEADO POR UN VEHÍCULO

Para obtener más información sobre cómo prevenir un golpeado, visite: <https://www.cprw.com/struck-by-research>

CDC **NIOSH** **CPWR** **OSHA**

Best Practices for Safe Crane Lifts

EXTEND ALL OUTRIGGERS, USE PROPER CHOCKING, AND ENSURE USE OF APPROPRIATE CHARTS TO HELP MAINTAIN STABILITY

ENSURE CRANE HAS ANTI-TWO BLOCK DEVICE TO PREVENT TWO-BLOCKING

ENSURE PROPER SLING ANGLES OF 45-60 DEGREE

USE TAG LINES AND PUSH STICKS TO KEEP THE LOAD UNDER CONTROL

NEVER STAND UNDERNEATH A SUSPENDED LOAD!

SET UP BARRICADES ALL THE WAY AROUND THE CRANE

USE CLEAR SIGNALS TO COMMUNICATE WITH THE CRANE OPERATOR

CDC **NIOSH** **CPWR** **OSHA**

PLANNING FOR A SAFE LIFT

Hold a lift planning meeting before any work begins. Identify a lift director or person in charge of the lift, and include properly licensed or certified operators, riggers, signal persons, and any others involved with the lift.

Make sure all workers are properly trained and licensed or certified, if appropriate

Plan for the items that will be moved – their weight, dimensions, contents, pick points, and center of gravity

Review the lifting capacities of the crane and rigging, as well as lifting points, methods of attachment, sling angles, boom and swing angles, and crane orientations

Ensure the crane and rigging are properly inspected and maintained

Discuss how the crane operator and signal person will communicate during the lift, a back-up plan if communication is lost, and an emergency stop procedure

Determine possible impacts of weather, terrain, or other environmental factors

Set up barricades and post warning signs around the lift zone

Identify nearby obstacles the crane could strike (e.g., overhead power lines, structures, below ground hazards)

CDC **NIOSH** **CPWR** **OSHA**

OSHA Falls Work Group

WORKING ON EXISTING DECKING

Avoiding falls through decking

A walking or working surface such as wood or steel decking may look safe and supportive, but to protect yourself and others, always be sure to:

- Inspect all decking underneath and on top, where possible, before work begins.
- Repair or replace sections of bad decking.
- Fall protection is required at all times. At a minimum, workers should wear a Personal Fall Arrest System (PFAS) with anchor points positioned to avoid energy fall hazards and strong enough to support 5,000 lbs per employee attached. Some deck replacement may require fall restraint solutions.
- Cover any opening and in an easily visible color, mark the cover with the word HOLE or COVER (in the language) of all workers on the job site. Secure it properly and ensure it is capable of supporting the weight of personnel, materials, or equipment that may be on top of it at any one time.
- Be aware of work occurring below the roof. Avoid struck by injuries by securing load and materials.



PLAN PROVIDE TRAIN
Give others notice on fall prevention
Use proper tools, skills
#stopconstructionfalls.com

Join the Campaign to Stop Construction Falls!



USO SEGURO DE LAS ESCOTILLAS

Evite las caídas al usar o trabajar cerca de las escotillas

Los contratistas deben tomar las siguientes medidas antes de comenzar el trabajo:

- Utilice una escalera fija para acceder al techo. Si no hay una escalera fija, instale un tablero o escalera de la cación para su uso no intencional.
- Indique acciones (barras para agujeros) que se puedan usar al desmontar desde la escalera hasta el techo.
- Indique barreras o estacas, según se define en la Administración de Seguridad y Salud Ocupacional (OSHA) y el HSE, según la Administración, OSHA, si está en el caso de las labores abiertas de los techos del edificio. Los barridos y trabajos de los trabajadores enojados de trabajar o estar en una escalera abierta.
- Indique una zona de barrido que sea al menos de la abertura de la escalera o escotilla.

En el trabajo, los trabajadores deben:

- Verificar que el camino está libre de escombros y herramientas y comunicaciones con los trabajadores de otras o debajo de una la estructura.
- Alertar a los socios (barras para agujeros) que se pueden usar al desmontar desde la escalera hasta el techo.
- Utilizar protección adecuada contra caídas, lo que incluye un sistema personal de detención de caída (Personal Fall Arrest System - PFAS) cuando trabaje a altura de 3 pies o más por encima de un nivel inferior.
- Los techos de las escotillas deben cerrarse cuando no estén en uso. Además, nunca se deben usar para almacenar materiales.

4. Inspect Equipment and Revisit Job Hazard Analyses...

Opportunity to inspect all equipment, test and remove any equipment broken, and follow your company's expectations for daily pre-shift safety workers, know your company's procedures for inspecting, to prevent and confirm that managers are providing sufficient time for these daily duties.

Job Hazard Analysis (JHA) and other safety check procedures at your work site. Identify hazards and their solutions. Discuss your findings and solutions are being used to prevent falls. If you do not currently have Administrative Space for a Daily Job Site Checklist for Recognition and Prevention of Falls, visit [https://www.osha-slc.gov/2017/06/27/stand-down-2021/](#)

5. Share & Discuss Short Videos and Podcasts...

Not enough time for a meeting or event? Listen to or watch short videos and podcasts that are available in English and Spanish with your crew during breaks or on your own time. Then talk about the information for a few minutes before a shift or during a break—help remember to stay at least 6 feet apart and wear face coverings!

Check out CPWR's [Textile Live!](#) playlist on falls including videos from NIOSH and other partners.

Story Share...

Other details or in-person for employees and to prevent about how falls have changed their lives and how they now prevent falls. Hearing a story from someone who will communicate the serious harm caused by falls is better understand the importance of preventing or to stay 6 feet apart and wear face coverings.

In the Fall Experience...

employees experienced, witnessed, or investigated a Fall FIO, please fill out CPWR's survey in [English](#) or [Spanish](#) to help build knowledge about root causes of falls from 10/15 to 10/31 to complete, in anonymous, and closes Friday, May 14, 2021.

Certificate of Participation...

Upon completion of participation to receive your certificate of participation. Return mail encouraged to register for new certificates annually.

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2021 National Safety Stand-Down to Prevent Falls in Construction Official Kick-off Event OSHA, NIOSH, & CDC

MAY 3rd, 2021 @ 1:00pm EDT

Despite ongoing efforts by construction employers and safety professionals prevent falls, provide fall protection systems, and train workers, falls continue the leading cause of death in the construction industry. According to recent data from the U.S. Bureau of Labor Statistics, 401 construction workers died from lower level in 2019. To raise awareness of construction falls and work with industry to better prevent them, the National Campaign to Prevent Falls in Construction was launched in 2012 with leadership from NIOSH, OSHA, and CPWR. Each year, business leaders, labor organizations, community groups, other construction industry stakeholders will participate in virtual or socially distanced Stand-Down events from May 3-7.

To kick off the week leaders from OSHA, NIOSH and CPWR will share some latest data related to OSHA enforcement, incident rates, and underlying causes of falls, as well as real-life stories and new fall prevention resources to use during Stand-Down week and beyond.

Panelists:

- James Frederick, Principal Deputy Assistant Secretary of Labor for Occupational Safety and Health, OSHA
- Dr. John Howard, Center Health Prof.
- Scott Ketchum, CDC
- G. Scott Earnest, Director of Construction Safety, OSHA
- Chris Chan, CH2C

Click here to register question for our panel

Stand-Down Nacional Dedicado a la Seguridad para Prevenir las Caídas: Seminario web en español



May 4, de mayo a las 2:00 pm ET

Martedìs

Inicio: 2:00 pm ET (hora de verano) - 1:00 pm ET (hora estándar)

Panel: Heidi Barra, Director de Construcción y Seguridad de la Administración de Construcción; James Frederick, Asesor de Construcción de OSHA; Scott Ketchum, Director de Seguridad y Salud Ocupacional; G. Scott Earnest, Director de Construcción de OSHA; Chris Chan, Director de Seguridad y Salud Ocupacional; Heidi Barra, Director de Construcción y Seguridad de la Administración de Construcción; Heidi Barra, Director de Construcción y Seguridad de la Administración de Construcción.

Moderador: Heidi Barra, Director de Construcción y Seguridad de la Administración de Construcción.

María Barbieri, OSHA Office of Communications

- 2021 374 trabajadores hispanos de la construcción murieron en el lugar de trabajo, un aumento de casi 27% desde 2018 (OSHA mayo 2021).
- En promedio, se registraron 141 muertes en la construcción de EE.UU. entre 2015 y 2019.
- El mayor contribuyente a las muertes en la construcción de EE.UU. fue la construcción de edificios de altura en los últimos 10 años (OSHA mayo 2021).
- Se estima que se registraron 141 muertes en la construcción de EE.UU. entre 2015 y 2019.

En este seminario web de 2 horas, los asistentes aprenderán sobre los riesgos laborales y las prácticas de seguridad en la construcción de edificios de altura, así como los recursos disponibles para mejorar la seguridad y la salud en el lugar de trabajo. El evento será en español y será transmitido en vivo en YouTube. Para obtener más información sobre este evento, visite [https://www.osha-slc.gov/2021/05/04/stand-down-2021/](#).

STANDING DOWN FOR FALL SAFETY IN 2021

Ideas for Virtual or Physically Distanced Stand-Down Events

May 3-7, 2021 is the 8th annual National Safety Stand-Down to Prevent Falls in Construction – an opportunity to pause work to educate and connect with safety workers, friends, family and loved ones. Here are several ideas for holding an event with your employees, virtually or in-person.

If you are meeting in-person, be sure to follow the most recent CDC guidelines for the construction industry, and all local and state public health guidelines to protect yourself and others from the spread of COVID-19. Always maintain a safe physical distance of at least 6 feet and wear face coverings.

1. Host or Attend a Virtual Event...

OPTION #1 – Use Zoom, Microsoft Teams, or another online platform to hold a meeting to review fall safety basics, conduct training, reward employees of positive fall prevention and protection, on walk through planning tools such as the fall prevention plan.

OPTION #2 – Attend a live webinar. OSHA, NIOSH, and CPWR will have the Official Kick-off for the 2021 Stand-Down on Monday, May 3rd, followed by a Spanish-language kick-off webinar on Tuesday, May 4th. Additional events that are free and open to the public are listed on OSHA's Stand-Down calendar.

OPTION #3 – Hold a virtual meeting using an online platform to watch an on-demand webinar or other videos, such as new recorded webinar about how to join the Stand-Down, assess harness fit, or plan for fall rescue. Use some time at the end for live discussion.

2. Create or Revise Your Written

Fall Protection and Rescue Plan... All fall prevention starts with comprehensive planning. Do you have a written fall protection and rescue plan? If not, visit the Improved Productivity results from CPWR's Fall Experience Survey indicate that a lack of planning is a key root cause of falls. Use this [checklist template](#) to create a fall protection and rescue plan. For small employers, use this [beginning to plan for falls, click here for a subletter, simpler plan](#) (both templates are available in Spanish).

3. Conduct a Toolbox Talk or Fall Protection Demo...

You can still do in-person activities such as conducting a toolbox talk, safety presentation, or fall protection demo. Just make sure workers are at least 6 feet apart and wearing face coverings.

DID YOU KNOW THAT FALLS LEADING CAUSE OF DEATH IN CONSTRUCTION?

Learn more about CPWR's daily mission at [www.stopconstructionfalls.com](#)

Join the Campaign to Stop Construction Falls!

OSHA NIOSH CDC

CPWR
CONSTRUCTION RESEARCH AND TRAINING
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FALL EXPERIENCE SURVEY

TO IDENTIFY COMMON ROOT CAUSES OF FALLS FROM INCIDENTS

Whether you stand down virtually or at a safe distance in person from jobsite, please take a minute to complete this survey. The survey is available in English and Spanish. [Click here to register for our panel](#).

Si participas de forma virtual o en persona a una distancia segura desde cualquier lugar, toma un minuto para completar este cuestionario. El cuestionario está disponible en inglés y español. [Click here to register for our panel](#).

May 3-7 is the National Safety Stand-Down to Prevent Falls! Order hardhat stickers to receive your participation here: [https://www.osha-slc.gov/2021/05/04/stand-down-2021/](#)

¡May 3-7 es el Stand-Down Nacional Para Prevenir las Caídas En la Construcción! Distribuir la participación de los trabajadores y ordenar los pegatinas para su casco aquí: [https://www.osha-slc.gov/2021/05/04/stand-down-2021/](#)

May 3-7 is the National Safety Stand-Down to Prevent Falls! Post employees fall hazards, preventive methods & your company's fall prevention expectations. Learn more at [https://www.osha-slc.gov/2021/05/04/stand-down-2021/](#)

¡May 3-7 es el Stand-Down Nacional Para Prevenir las Caídas En la Construcción! Haz que los empleados sepan sobre las caídas, los métodos de prevención y las expectativas de su empresa. Aprenda más aquí: [https://www.osha-slc.gov/2021/05/04/stand-down-2021/](#)

Spanish images/images en español
Spanish images/images en español

NORA COVID-19 Workgroup



Webinars



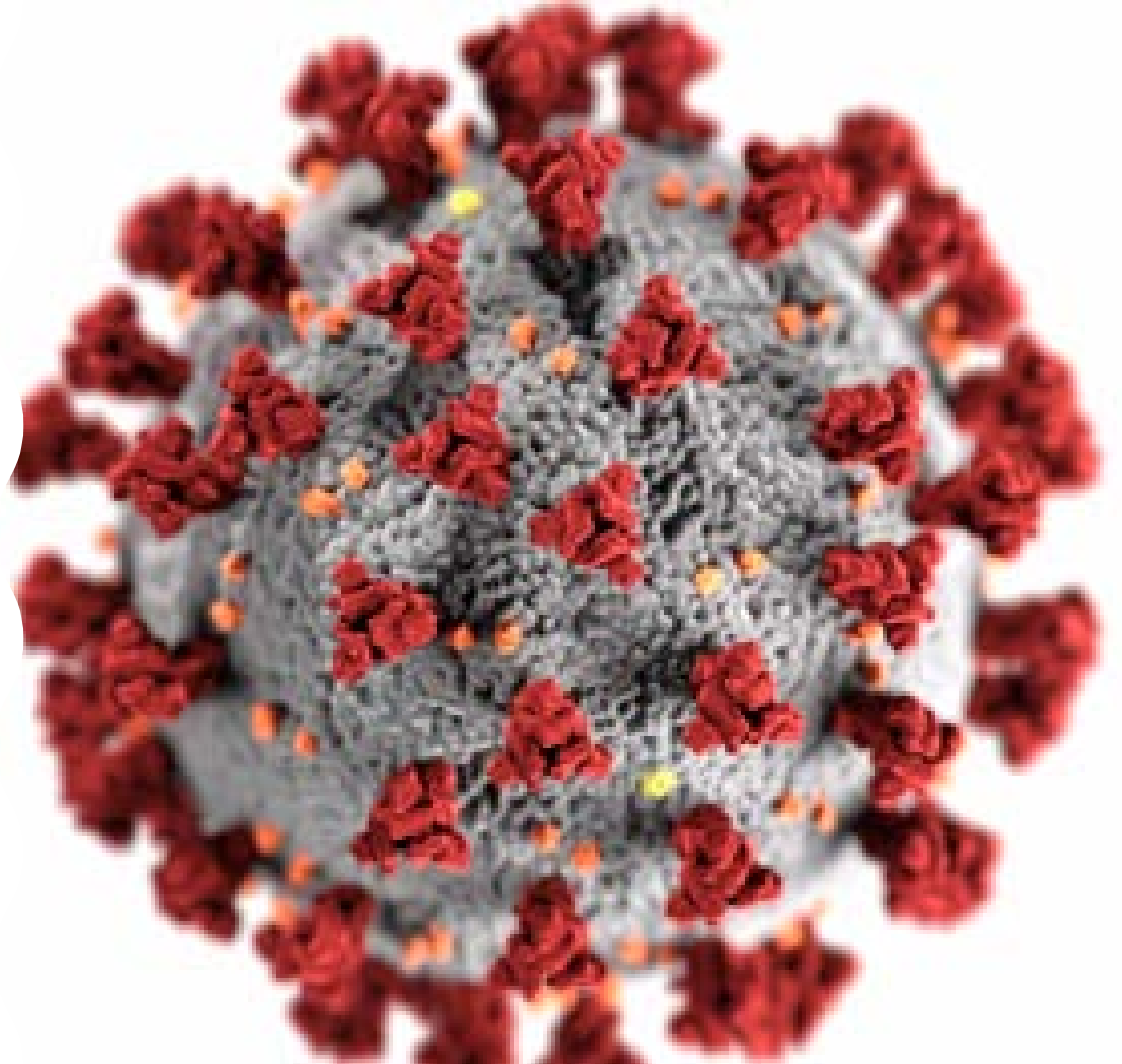
Clearinghouse

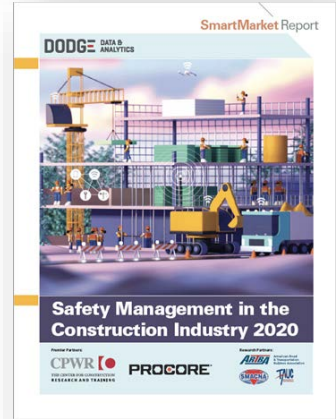
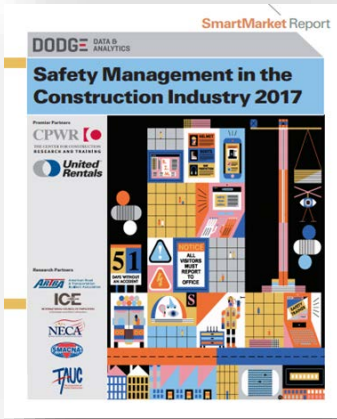
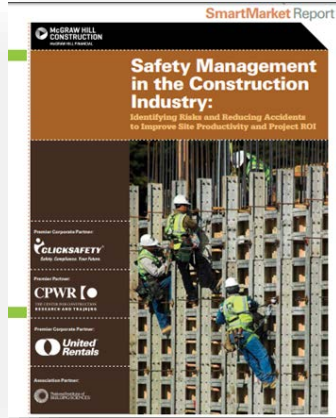
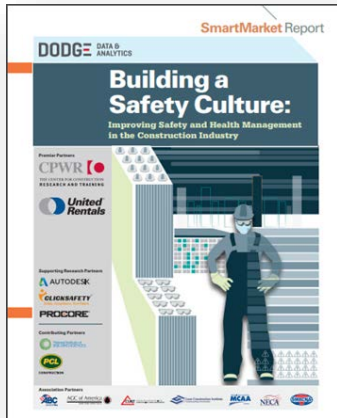


Planning tool



Resources





SmartMarket Report



Safety Management in the Construction Industry 2021



Premier Partner



Contributing Partner



Research Partners



Contents of 2021 Dodge SmartMarket Report



SAFETY PRACTICES



IMPACT OF SAFETY
PROGRAMS



SAFETY TRAINING
AND
COMMUNICATION



TECHNOLOGY AND
SAFETY



HEALTH AND
WELLNESS



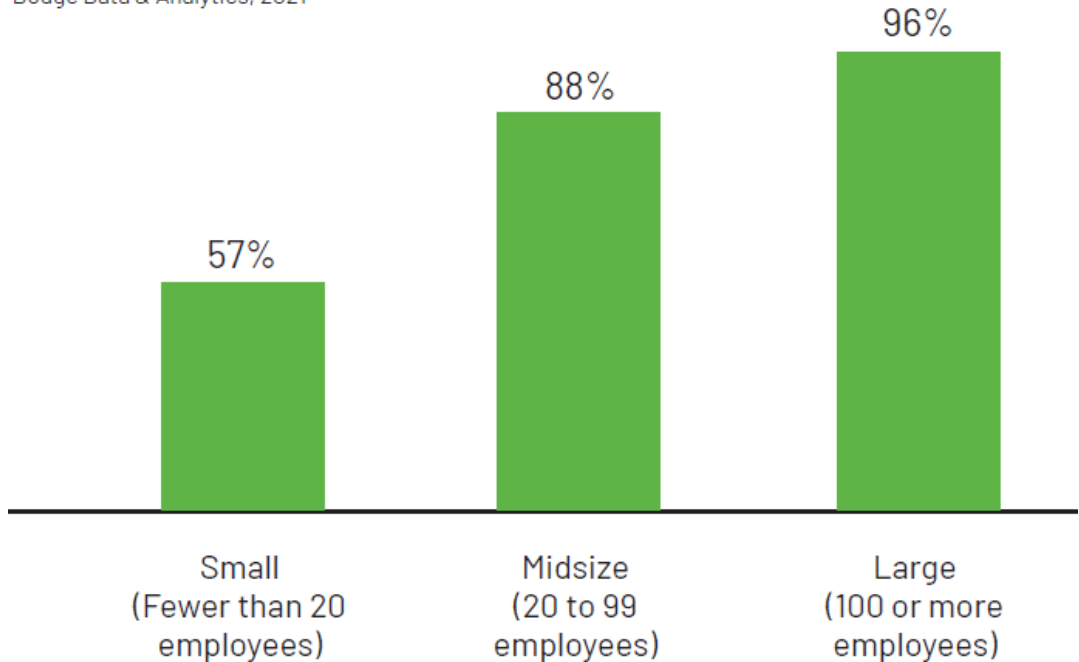
SIDEBARS AND
CASE STUDIES

<https://www.cpwr.com/research/published-research/cpwr-reports/special-reports/>

Written Plan for COVID-19

Develop a Written Plan to Protect Jobsite Workers From the Spread of COVID-19 (by size of company)

Dodge Data & Analytics, 2021



Construction Safety Management During the COVID-19 Pandemic

Amber Brooke Trueblood, DrPH, Samantha Brown, MPH, William Harris, MS, Xiuxen Sue Dong, DrPH*

OVERVIEW

The COVID-19 pandemic has confronted construction businesses with safety and health management challenges, forcing them to address potential viral transmission in the workplace on top of existing occupational hazards. This Data Bulletin provides updated data about the impact of COVID-19 on construction businesses and important information regarding construction safety and health management during the pandemic. The effects of COVID-19 on construction businesses, vaccination and testing requirements for physical work presence, and expected travel expenditures through October 2021 were examined using data from the U.S. Census Bureau's weekly Small Business Pulse Survey (SBPS). Trends were compared between construction and all nonfarm industries, and within construction by establishment size. Safety and health priorities, COVID-19 plans, practices and policies, and online training were explored using data from the Construction Safety Management Survey (CSMS), a biennial online survey of construction contractors conducted by Dodge Data & Analytics (DD&A). CPWR has collaborated with DD&A on this survey since 2012, and the 2021 CSMS, conducted from May to June 2021, is the fifth in a series on safety management in construction through this joint effort. The current CSMS added questions on how contractors are managing health and wellness in workplaces during the pandemic. Trends were compared between construction firm types and by union status or firm size.* Time periods covered by this Data Bulletin vary by source according to data availability.



THIS ISSUE

This issue examines construction safety management during the COVID-19 pandemic, including the impact of COVID-19 on businesses; safety and health priorities; and plans, practices, and policies to prevent viral spread.

KEY FINDINGS

Nearly two-thirds (64%) of construction businesses reported a moderate to large negative effect of COVID-19, and 28% reported a moderate to large decrease in employment compared to pre-pandemic levels.

Chart 2

Construction businesses were less likely than all nonfarm businesses to require vaccination for on-site work from August to October 2021 (6% versus 11%).

Chart 3

COVID-19 was more likely to be the top safety and health concern in union than non-union firms (general contractors: 28% versus 13%; specialty trade contractors: 17% versus 15%).

Chart 7

Small firms were less likely to increase online training due to COVID-19 (19% of general contractors and 10% of specialty trade contractors) or have a COVID-19 written plan (68% of general contractors and 49% of specialty trade contractors).

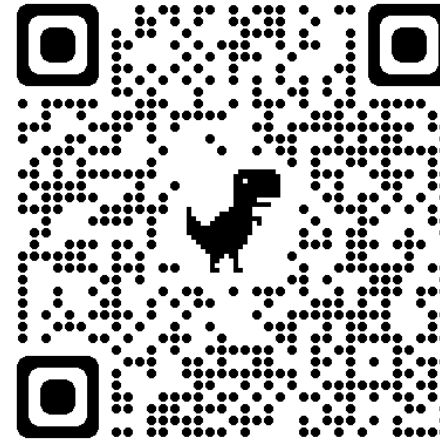
Charts 10-11

NEXT DATA BULLETIN

Mental Health among Construction Workers During the COVID-19 Pandemic

Data Bulletins

<https://www.cpwr.com/research/data-center/data-reports/>



*Correspondence to: Xiuxen Sue Dong, SDong@cpwr.com.

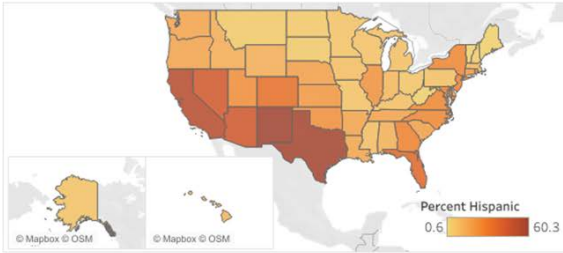
*Sample size may be small (n < 10) for certain subgroups after stratification. Readers are advised to use related results with caution.

Numbers in text and charts (except charts 1 and 4) were calculated by the CPWR Data Center.

Hispanic Construction Workers, 2011-2019

Year: All State: All

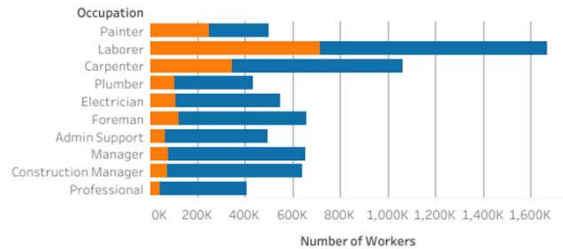
Hispanic employment by state



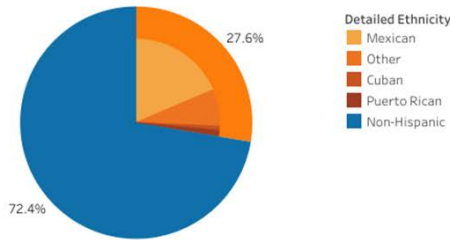
Employment by ethnicity and year



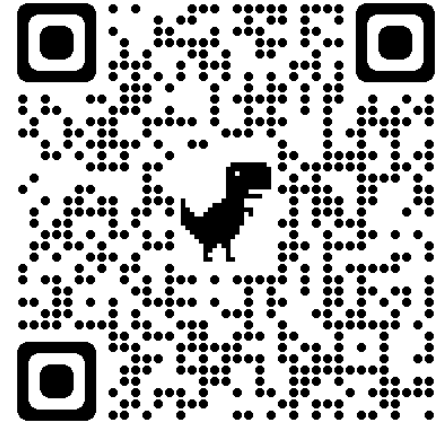
Occupations with the highest proportion of Hispanic workers



Employment by detailed ethnicity



Data Source: U.S. Census Bureau, American Community Survey (ACS), 2011-2019. Calculations by the CPWR Data Center. Datasets were downloaded through IPUMS: Steven Ruggles, Sarah Flood, Sophia Foster, Ronald Goeken, Jose Pacas, Megan Schouweiler and Matthew Sobek. IPUMS USA: Version 11.0 [dataset]. Minneapolis, MN: IPUMS, 2021. <https://doi.org/10.18128/D010.V11.0>



Data Dashboards

<https://www.cpwr.com/research/data-center/data-dashboards/>

9 Interactive Data Dashboards (by Nov. 15)

- Characteristics of Construction Businesses — just added
- Characteristics of Construction Business Owners — just added
- Construction Payroll Establishments and Employees
- Construction Fatality Map
- Construction Focus Four
- COVID-19 Vaccinations — updated 11/5/21
- Hispanic Employment
- OSHA Inspections and Citations in Construction
- Severe Injuries

Small Study Program (\$30,000 x 1 year)

- 131 small studies awarded since the program started in the 1990s (an estimated \$3.75 million)
- Received 66 proposals and funded 12 studies since September 2019

EXAMPLES

Nebulizer-retrofitted drone deployment at residential construction sites, University of Utah

Intelligent hearing protection for construction workers exposed to hazardous noise, Clemson University

Protocol for assessing human-robot interaction safety risks, University of Alabama

Safety challenges of UAV integration in the construction industry: Focusing on workers at heights, University of Florida

Assessment of construction workers' mental health to improve wellbeing, Colorado State University

Leveraging immersive virtual technology for job hazard analysis, University of Houston

<https://www.cpwr.com/research/small-studies-program/>

THANK YOU

For more on the National Construction Center, please visit:
<https://www.cpwr.com/research/>